AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims:

1.-10. (Canceled)

11. (New) A measuring sensor for determining a physical property of a measured gas, comprising:

a sensor element capable of being exposed to the measured gas; and

a protective layer at least partially coating the sensor element, the a protective layer protecting against a harmful component in the measured gas, wherein the protective layer includes one of highly active γ- aluminum oxide (Al_2O_3) and highly active δ- aluminum oxide (Al_2O_3) having additives of one of the alkaline metals group, the alkaline earth group, the IV B subgroup, and the lanthanides group.

12. (New) The measuring sensor as recited in Claim 11, wherein the measuring sensor is for determining one of an oxygen concentration and a contaminant concentration in an exhaust gas of an internal combustion engine.

13. (New) The measuring sensor as recited in Claim 11, wherein the additives are one of oxides, carbonates, acetates, and nitrates of elements of the one of the alkaline metals group, the alkaline earth group, the IV B subgroup, and the lanthanides group.

14. (New) The measuring sensor as recited in Claim 11, wherein the protective layer is extremely porous and has a great layer thickness.

15. (New) The measuring sensor as recited in Claim 11, wherein a thickness of the protective layer is greater than 250 μm.

16. (New) The measuring sensor as recited in Claim 11, wherein:

the sensor element includes a ceramic element made of solid electrolyte layers, an outer electrode situated on a surface of the ceramic element, and a porous protective

lining coating the outer electrode, and

the protective layer covers the porous protective lining.

17. (New) A method for producing a protective layer for a sensor element of a measuring sensor, comprising:

preparing components of the protective layer using proportions of a pore-forming material and at least one of an organic binding agent and an inorganic binding agent in a water-based manner to form a substance having one of a pourable characteristic and a spreadable characteristic;

applying the substance to the sensor element by one of dipping, rolling, spraying, spreading, dripping, and printing;

in order to dry the applied substance, exposing the sensor element to a temperature between 20^0 C and 180^0 C; and

subsequent to the exposing and in order to burn off the binding agent proportion and the pore-forming material proportion and sintering on the substance, exposing the sensor element to a temperature between 150^0 C and 1150^0 C.

18. (New) The method as recited in Claim 17, further comprising:

adding, as the inorganic binding agent, one of aluminum nitrate and an aluminum hydroxide gel; and

adding, as the organic binding agent, one of a water soluble polymer and a water dispersible polymer.

19. (New) The method as recited in Claim 17, further comprising:

producing the sensor element to have a surrounding frame on a protective lining;

sintering the sensor element; and

one of imprinting, painting in, and dripping in the substance into the surrounding frame.

20. (New) The method as recited in Claim 19, wherein:

the surrounding frame includes densely sintered zirconium oxide.

21. (New) The method as recited in Claim 19, further comprising:

producing and sintering the sensor element to have pillars, proceeding from a surface of the protective lining within the surrounding frame.

22. (New) The method as recited in Claim 21, wherein the pillars include the same material as the protective lining.

23. (New) The method as recited in Claim 17, further comprising:

producing and sintering the sensor element to have a porous adhesive layer that coats a protective lining, wherein a porosity of the porous adhesive layer is substantially greater than that of the protective lining; and

one of imprinting, painting, rolling, and dripping the substance onto the adhesive layer.

24. (New) The method as recited in Claim 23, wherein:

a material of the protective lining includes zirconium oxide (ZrO_2) having a small proportion of aluminum oxide (Al_2O_3),

a material of the porous adhesive layer includes zirconium oxide (ZrO_2) having a substantially greater proportion of aluminum oxide (Al_2O_3), and

a substantially greater proportion of a pore-forming material is added to a material of the porous adhesive layer as compared to that which is added to the material of the protective lining.